FIG.1A

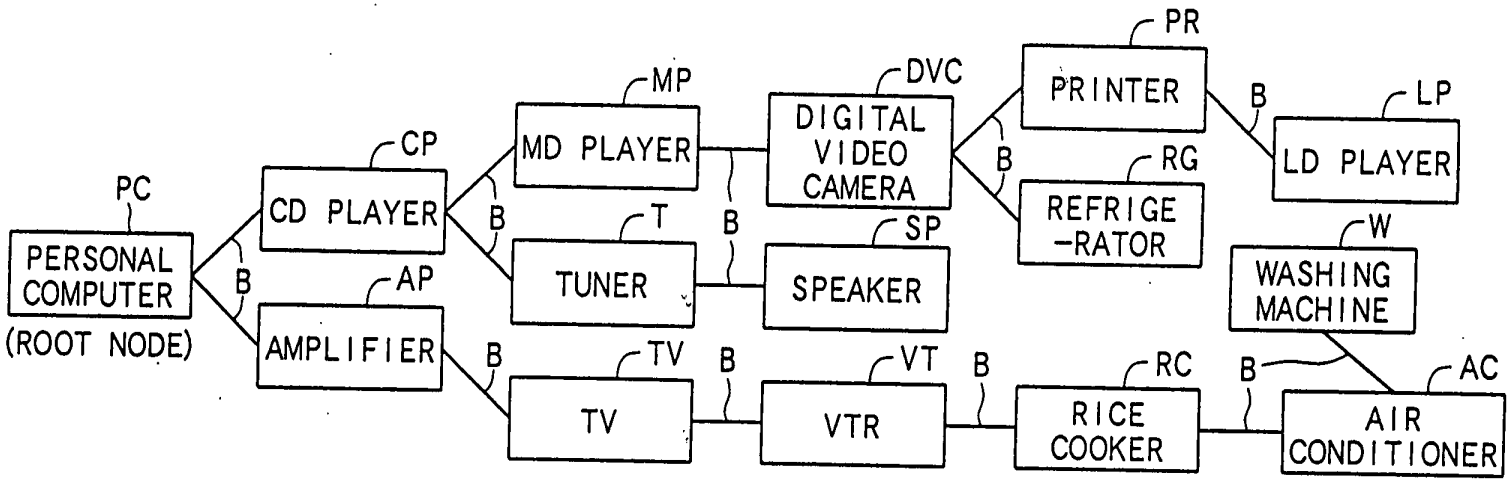

PC
PERSONAL COMPUTER
(ROOT NODE)
B
CP
CD PLAYER
AP
AMPLIFIER
B
MP
MD PLAYER
T
TUNER
B
TV
TV
B
DVC
DIGITAL VIDEO CAMERA
SP
SPEAKER
B
VT
VTR
B
PR
PRINTER
RG
REFRIGE -RATOR
B
RC
RICE COOKER
B
LP
LD PLAYER
W
WASHING MACHINE
B
AC
AIR CONDITIONER

FIG.1B

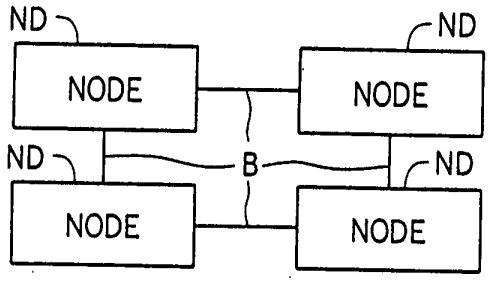

ND
NODE
ND
NODE
ND
B
ND
NODE
NODE

FIG. 2A

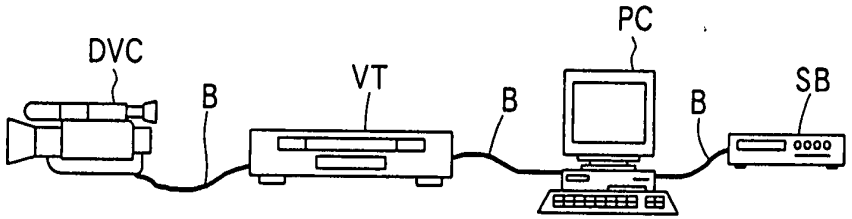

DVC
B
VT
B
PC
B
SB

FIG. 2B

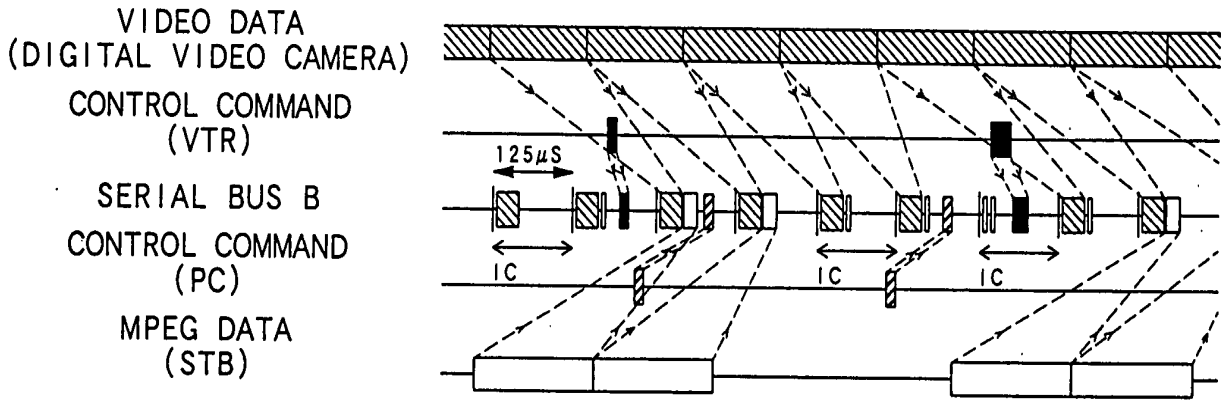

VIDEO DATA
(DIGITAL VIDEO CAMERA)
CONTROL COMMAND
(VTR)
SERIAL BUS B
CONTROL COMMAND
(PC)
MPEG DATA
(STB)
125μS
IC
IC
IC

FIG.3

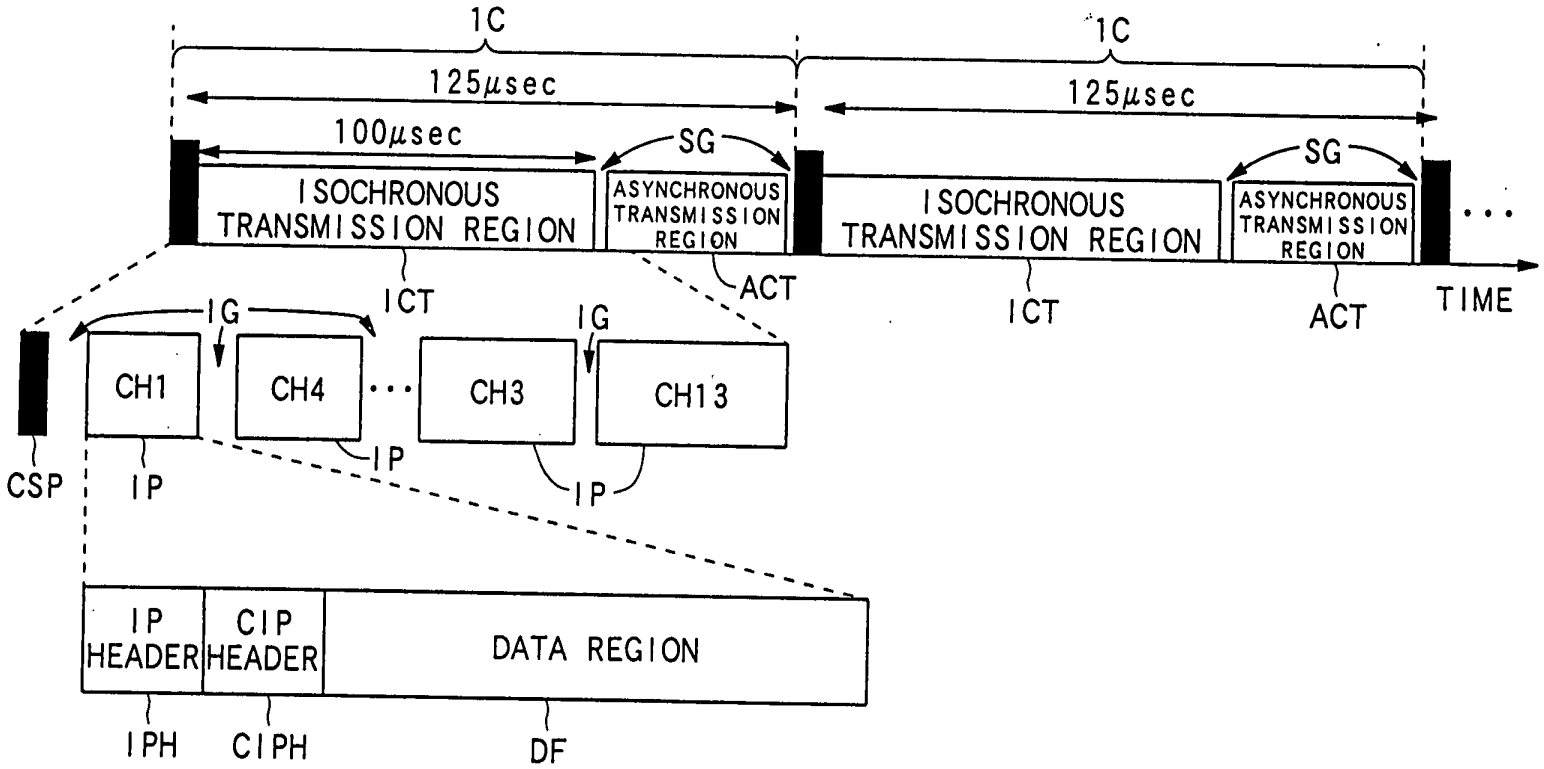

1C
125μsec
100μsec
SG
ISOCHRONOUS TRANSMISSION REGION
ASYNCHRONOUS TRANSMISSION REGION
ICT
ACT
TIME
IG
CH1
CH4
CH3
CH13
CSP
IP
IP HEADER
CIP HEADER
DATA REGION
IPH
CIPH
DF

FIG.4

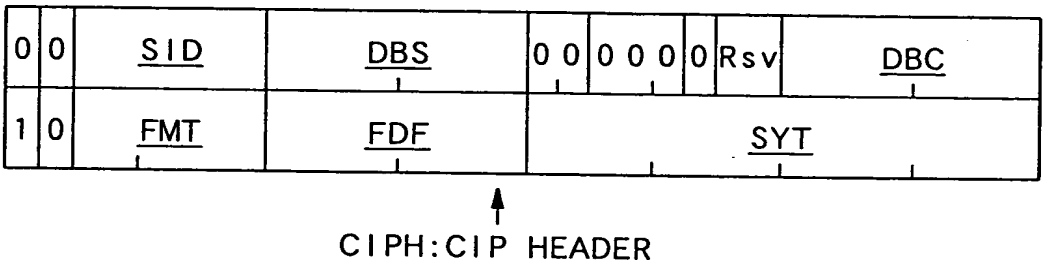


FIG.5

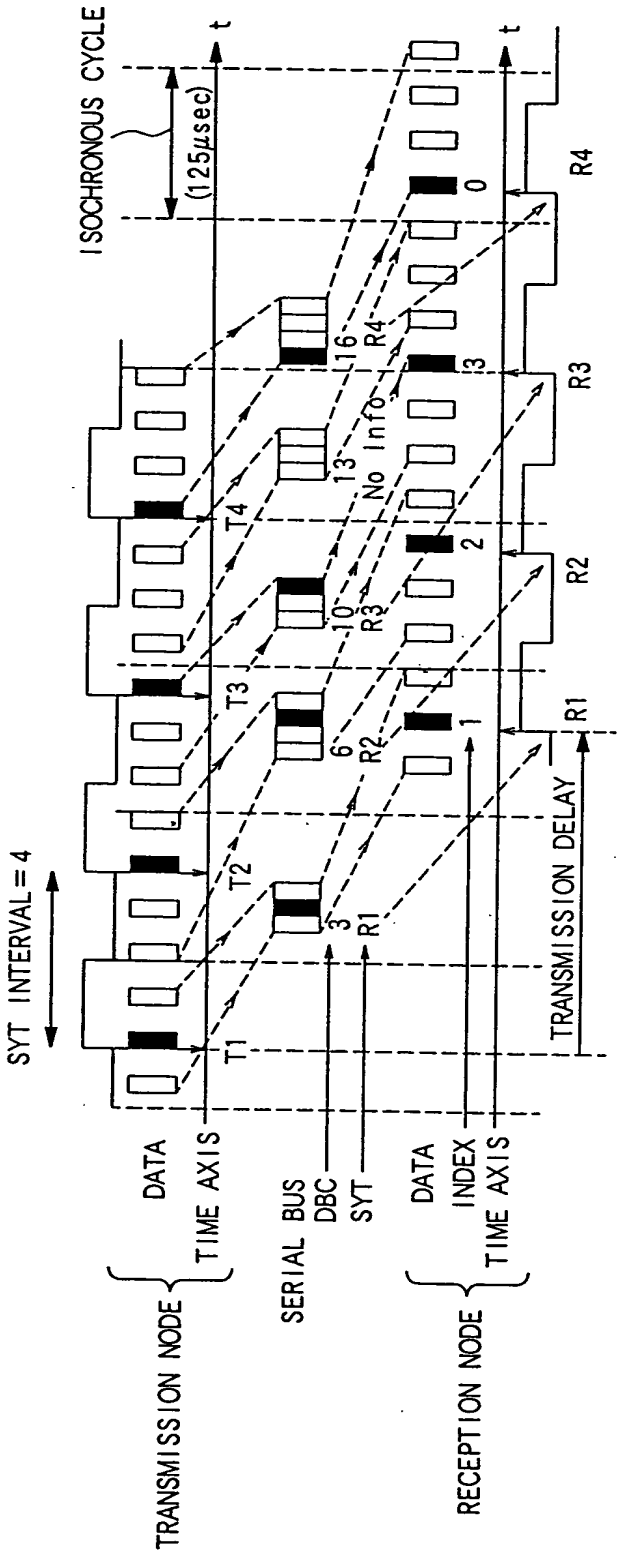

ISOCHRONOUS CYCLE
(125μsec)
t
SYT INTERVAL = 4
T1
T2
T3
T4
R1
R2
R3
R4
No Info
TRANSMISSION DELAY
TRANSMISSION NODE
DATA
TIME AXIS
SERIAL BUS
DBC
SYT
RECEPTION NODE
DATA
INDEX
TIME AXIS

FIG.6

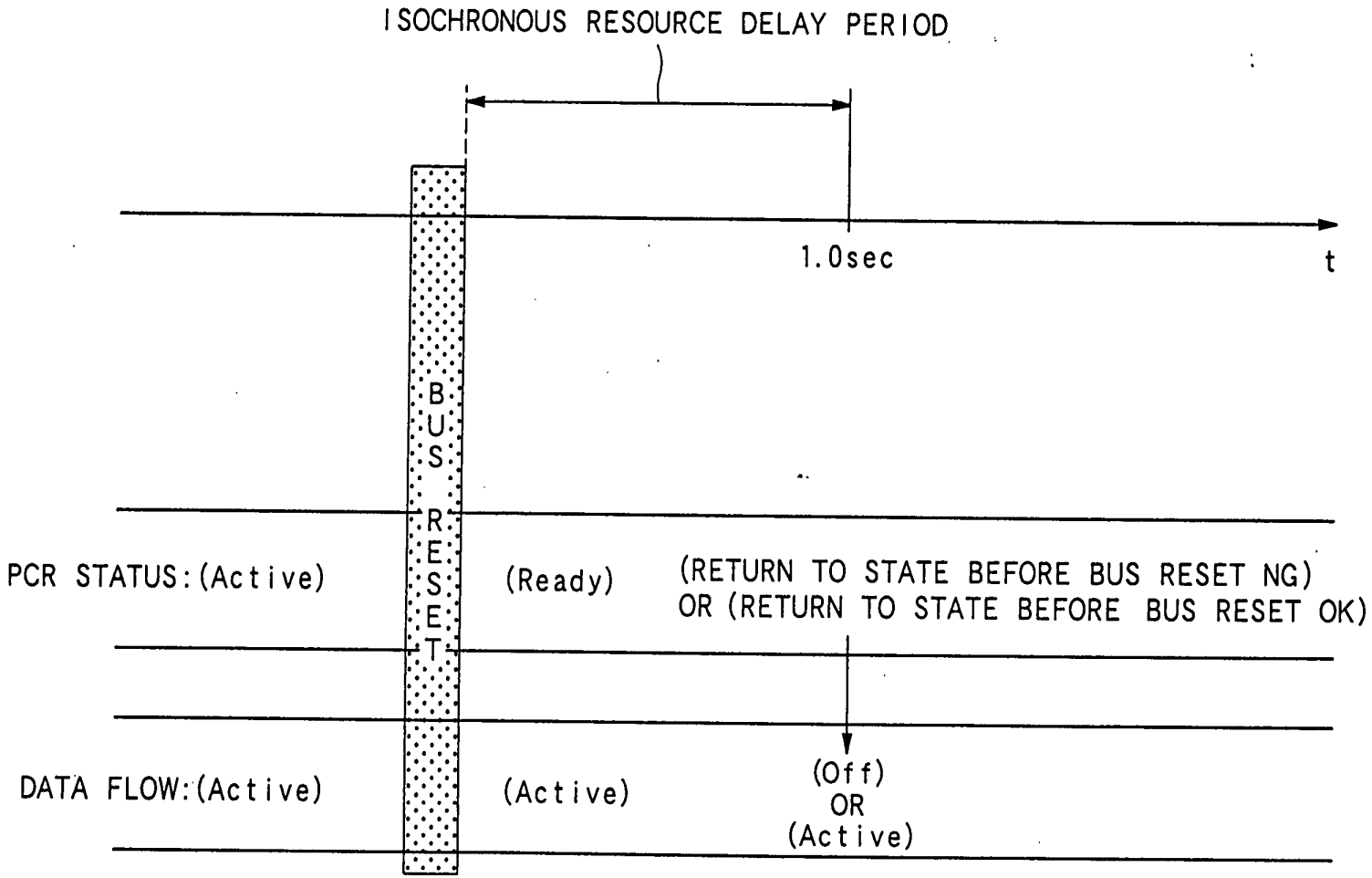

ISOCHRONOUS RESOURCE DELAY PERIOD
1.0sec
t
BUS RESET
PCR STATUS:(Active)
(Ready)
(RETURN TO STATE BEFORE BUS RESET NG)
OR (RETURN TO STATE BEFORE BUS RESET OK)
DATA FLOW:(Active)
(Active)
(Off)
OR
(Active)

FIG.7

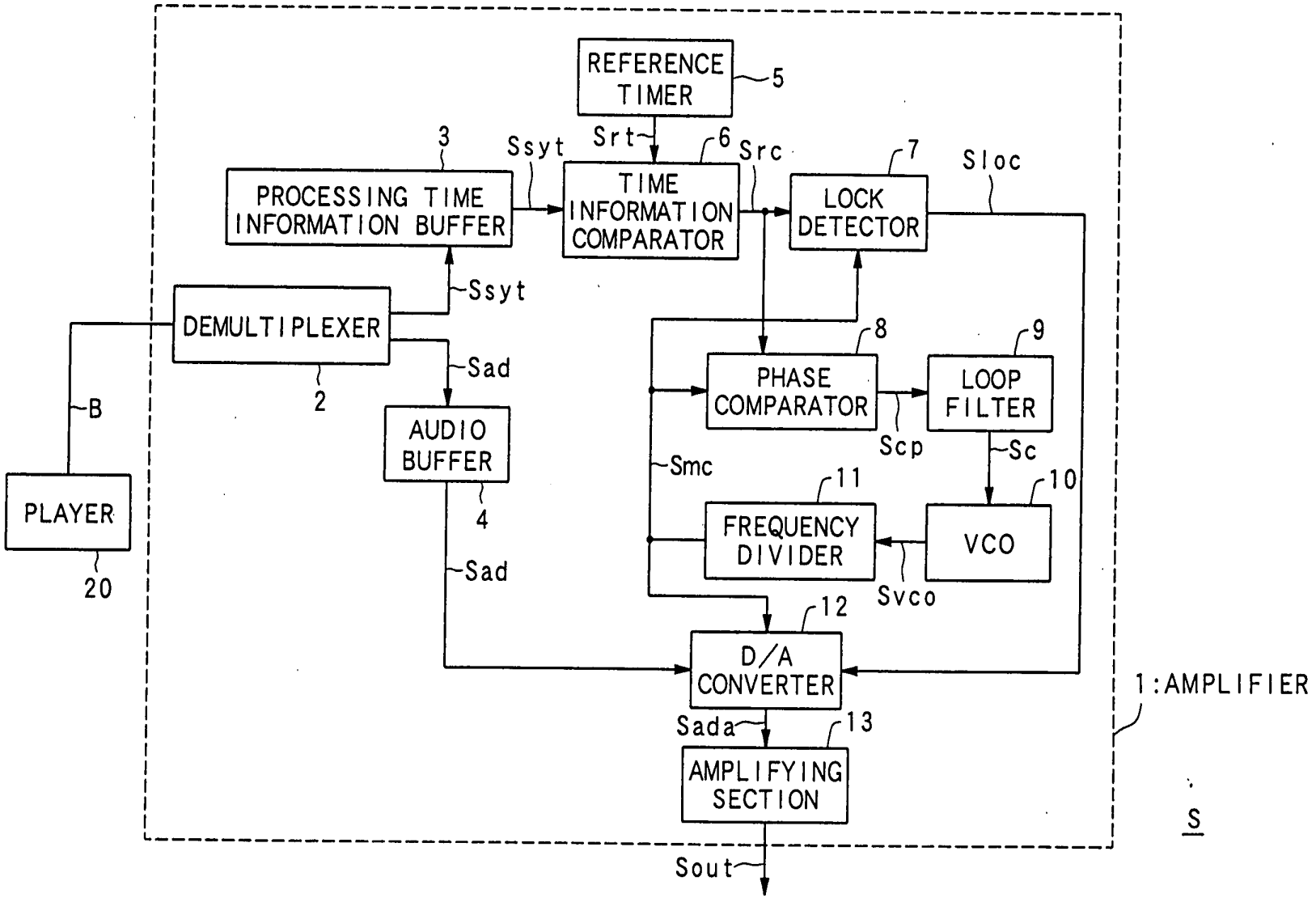

REFERENCE TIMER
5
Srt
6
Src
7
Sloc
3
Ssyt
PROCESSING TIME INFORMATION BUFFER
TIME INFORMATION COMPARATOR
LOCK DETECTOR
Ssyt
DEMULTIPLEXER
2
Sad
B
AUDIO BUFFER
4
8
9
PHASE COMPARATOR
LOOP FILTER
Scp
Sc
Smc
11
10
PLAYER
20
FREQUENCY DIVIDER
VCO
Svco
Sad
12
D/A CONVERTER
Sada
13
AMPLIFYING SECTION
Sout
1:AMPLIFIER
S

FIG.8

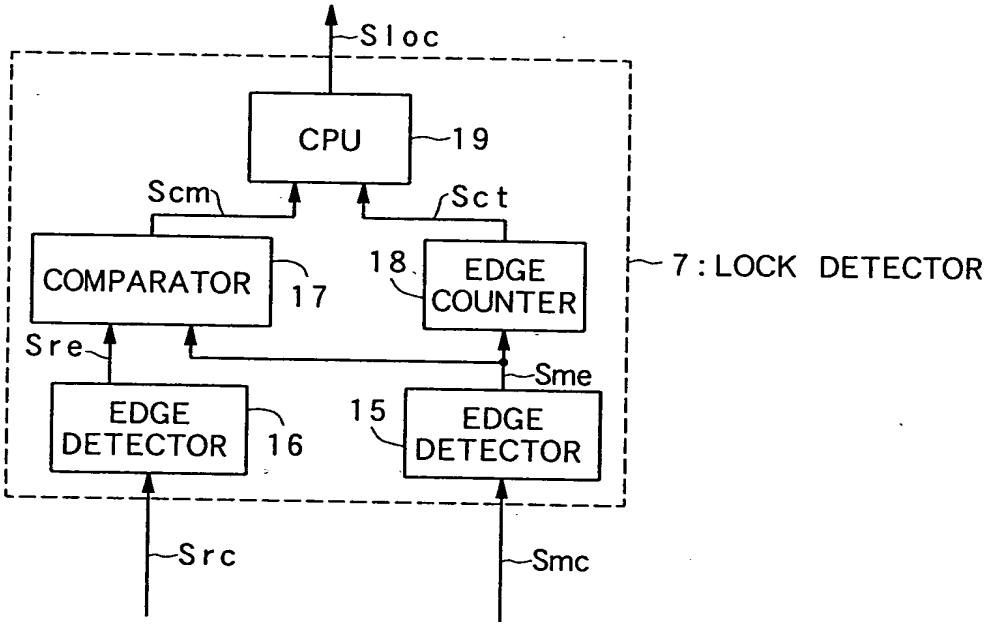

Sloc
CPU
19
Scm
Sct
COMPARATOR
17
18
EDGE COUNTER
7 : LOCK DETECTOR
Sre
Sme
EDGE DETECTOR
16
15
EDGE DETECTOR
Src
Smc

FIG.9

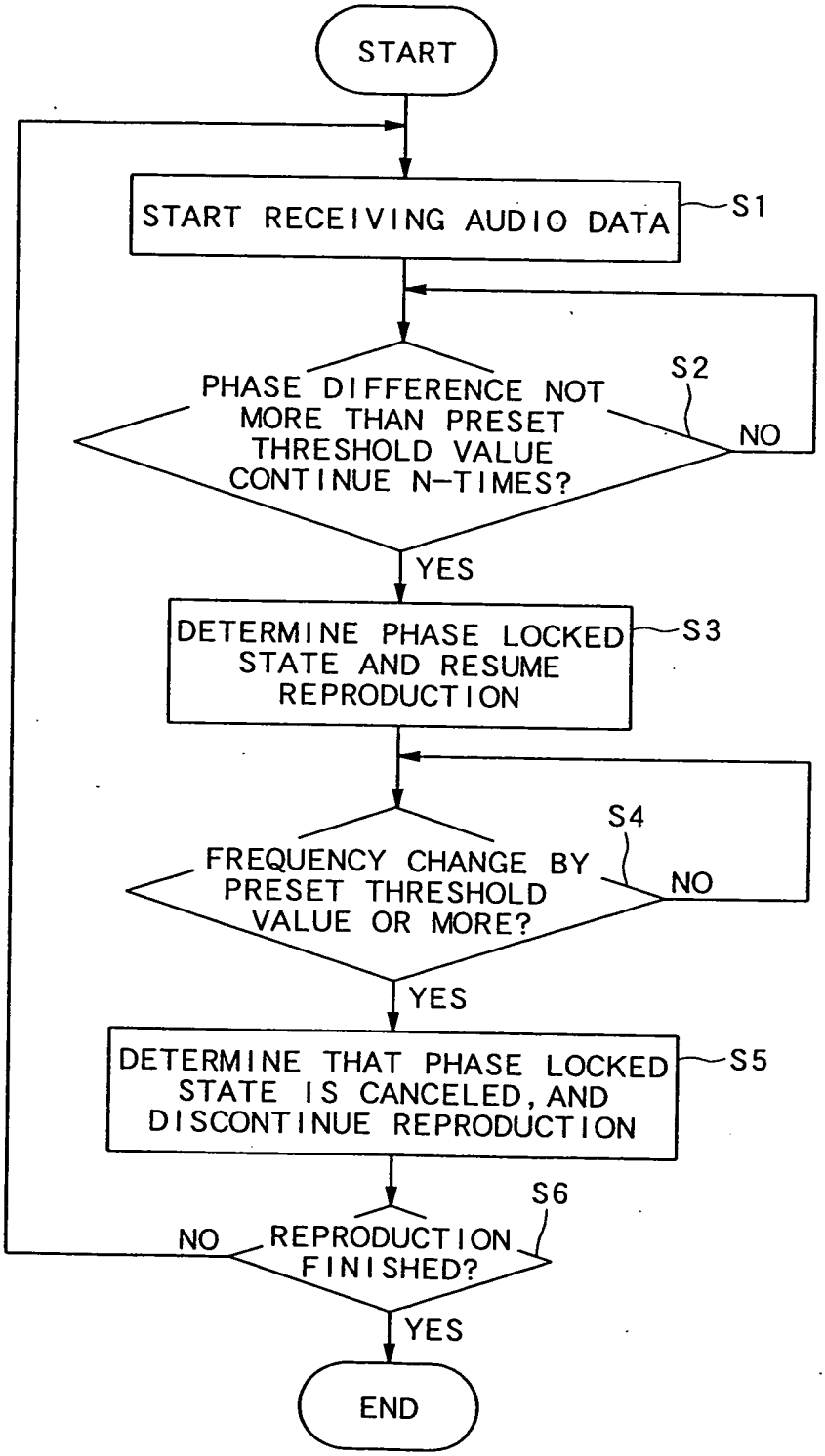
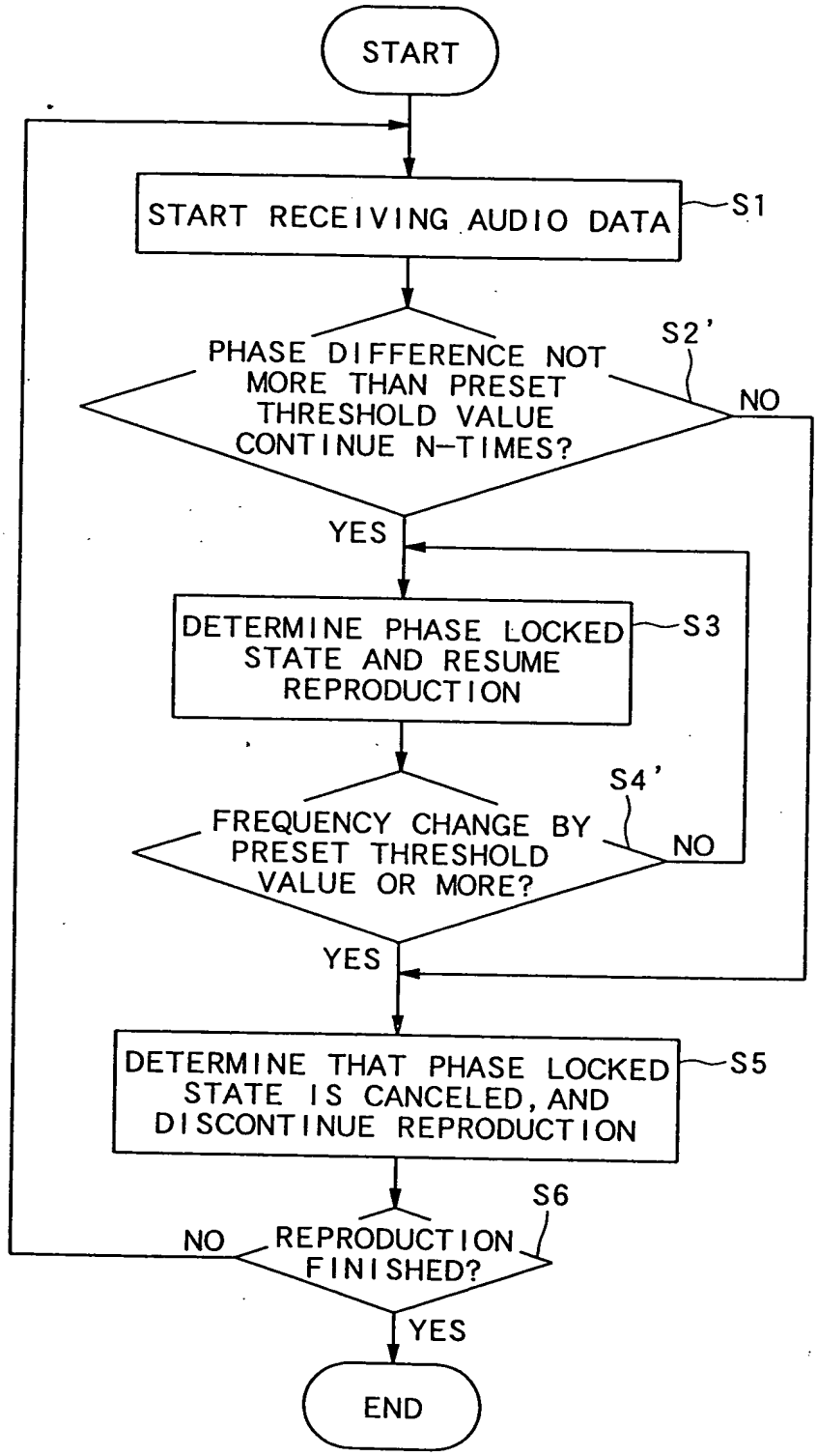

START
START RECEIVING AUDIO DATA
S1
PHASE DIFFERENCE NOT MORE THAN PRESET THRESHOLD VALUE CONTINUE N-TIMES?
S2
NO
YES
DETERMINE PHASE LOCKED STATE AND RESUME REPRODUCTION
S3
FREQUENCY CHANGE BY PRESET THRESHOLD VALUE OR MORE?
S4
NO
YES
DETERMINE THAT PHASE LOCKED STATE IS CANCELED, AND DISCONTINUE REPRODUCTION
S5
REPRODUCTION FINISHED?
S6
NO
YES
END

FIG.10


START
START RECEIVING AUDIO DATA
S1
PHASE DIFFERENCE NOT MORE THAN PRESET THRESHOLD VALUE CONTINUE N-TIMES?
S2'
NO
YES
DETERMINE PHASE LOCKED STATE AND RESUME REPRODUCTION
S3
FREQUENCY CHANGE BY PRESET THRESHOLD VALUE OR MORE?
S4'
NO
YES
DETERMINE THAT PHASE LOCKED STATE IS CANCELED, AND DISCONTINUE REPRODUCTION
S5
REPRODUCTION FINISHED?
S6
NO
YES
END